

## Measurements of High-Frequency Earth Orientation With GPS: Current Status

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This talk will review the current status of Global Positioning System (GPS) measurements of high-frequency Earth orientation variations, i.e., those with periods between about 1 hour and 5 days. We will present recent estimates of UT1 and polar motion as analyzed at the Jet Propulsion Laboratory, focusing on the time period of the CONT '94 global VLB1 campaign (January 10-25, 1994). Additional measurements of the excess length of day (LOD) over a longer time span obtained at 12 to 24-hour intervals will also be presented. These will be contrasted with the latest daily GPS Earth orientation measurements obtained routinely for the International GPS Geodynamics Service (IGS) by various analysis centers around the world.

We expect that as GPS data processing techniques improve, the independent analyses of the various centers will be useful for reducing systematic modeling errors and for improving overall sensitivity to geophysical fluctuations with periods of 2 days and longer. Sub-daily resolution ability will also improve, but routine generation of these measurements will be operationally challenging due to the huge computational overhead. More promising is the estimation of subdaily variability at particular frequencies of interest (such as those of the tides) using data over extended time spans,

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4. G

5a. GIO High Time Resolution  
Measurements of Earth  
Orientation: Progress and  
Prospects

5b. 1239 Rotational Variations  
1294 Instruments and  
Techniques

5c. ....

6. ----

7. None

8. Charge \$50 to  
A. P. Freedman

9. I (by session co-chair J. O.  
Dickey.)

10. Willing to preside over session

11. No